

EXHIBIT 2

FILED UNDER SEAL

Clement S. Roberts (SBN 209203)
croberts@orrick.com
 ORRICK HERRINGTON & SUTCLIFFE LLP
 405 Howard Street
 San Francisco, CA 94105
 Tel: (415) 773-5700 -- Fax: (415) 773-5759

Alyssa Caridis (SBN 260103)
acaridis@orrick.com
 ORRICK HERRINGTON & SUTCLIFFE LLP
 777 South Figueroa Street, Suite 3200
 Los Angeles, CA 90017
 Tel: (213) 629-2020 -- Fax: (213) 612-2499

George I. Lee
lee@ls3ip.com
 Sean M. Sullivan
sullivan@ls3ip.com
 Rory P. Shea
shea@ls3ip.com
 J. Dan Smith
smith@ls3ip.com
 Michael P. Boyea
boyea@ls3ip.com
 Cole B. Richter
richter@ls3ip.com
 LEE SULLIVAN SHEA & SMITH LLP
 656 W Randolph St, Floor 5W
 Chicago, IL 60661
 Tel: (312) 754-0002 -- Fax: (312) 754-0003

Attorneys for Sonos, Inc.

**UNITED STATES DISTRICT COURT
 FOR THE NORTHERN DISTRICT OF CALIFORNIA**

GOOGLE LLC,

Plaintiff,

 v.

 SONOS, INC.,

Defendant.

Case No. 3:20-cv-6754

**SONOS, INC.'S THIRD
 SUPPLEMENTAL RESPONSES AND
 OBJECTIONS TO GOOGLE'S FIRST
 SET OF INTERROGATORIES [1-20]**

Judge: Hon. William Alsup
 Complaint Filed: September 28, 2020

Claim 14	Sonos Audio Players
<p>predefined grouping of zone players does not include the third zone player, and wherein the second predefined grouping of zone players does not include the second zone player.</p>	

Sonos reserves the right to revise, correct, add to, supplement, or clarify its response to this Interrogatory as additional information is discovered and/or becomes available.

INTERROGATORY NO. 14

State all bases for your contention, if any, that Google's infringement has been willful, including, but not limited to, identifying when and how Google was put on notice of the alleged infringement for each of the Asserted Patents, and identify each person with knowledge of the foregoing and all Documents relating thereto.

RESPONSE TO INTERROGATORY NO. 14

Sonos objects to this interrogatory as overbroad, unduly burdensome, and not reasonably proportional to the needs of the case insofar as it purports to require Sonos to "[s]tate *all* bases" as to Google's willful infringement and "*all* Documents relating thereto."

Sonos also objects to this interrogatory to the extent it seeks information protected by the attorney-client privilege and/or work product doctrines. In addition, Sonos objects to this interrogatory insofar as "all bases" is intended to call for protected attorney work-product and/or to require counsel to brief an issue in response to an interrogatory.

1 Sonos further objects to this Interrogatory as premature to the extent it seeks expert
2 discovery in advance of the date set forth in the Federal Rules of Civil Procedure and/or the
3 Court's Scheduling Order.

4 Sonos further objects to this Interrogatory on the ground that it is a premature contention
5 interrogatory that has been filed before a substantial amount of discovery has been conducted in
6 this lawsuit. *See* Fed. R. Civ. P. 33(a)(2) (“[T]he court may order that [a contention]
7 interrogatory need not be answered until after designated discovery is complete . . .”).

8 Sonos further objects to this Interrogatory as premature to the extent that some of the
9 information called for by this interrogatory is in the possession of Google and has not yet been
10 produced in this case.

11 Subject to, and without waiving, the foregoing Specific and General Objections, Sonos
12 states as follows:

13 Sonos is an American success story. It was founded in 2002 in Santa Barbara, California
14 by a handful of engineers and entrepreneurs with a vision to invent the world's first wireless,
15 whole-home audio system. At the time, popular audio systems were dependent on a centralized
16 receiver hard-wired to each individual passive speaker throughout a home. Further, most homes
17 with Internet access had dial-up connections, the iPhone was still five years away, Netflix was
18 mailing DVDs, and streaming music services like Spotify and Pandora did not exist. The
19 technological barriers confronting Sonos were enormous.

20 To deliver on its vision, the Sonos team completely reimagined the in-home music
21 system as a decentralized network of smart playback devices, and it developed a platform that
22 could seamlessly and wirelessly distribute audio room by room or throughout the home at the
23 user's discretion. Sonos created a “choose what to play, where to play it, and how loud” wireless
24 audio system that could not only perform without lag (*e.g.*, buffering or network interruptions),
25 but that was also so simple and intuitive that customers would make it part of their daily lives.

26 In this respect, as acknowledged by the media, Sonos reinvented home audio for the
27 digital age. *See, e.g.*, SONOS-SVG2-00042630-631 (2005 PC Magazine: describing one of
28 Sonos's first products as “the iPod of digital audio” for the home and contrasting Sonos with

1 conventional home audio systems that required “dedicated wiring”); SONOS-SVG2-00042632-
2 636 (2013 NBC News: “If you’re not familiar with Sonos, this company revolutionized the home
3 audio world a decade ago”); SONOS-SVG2-00042637-643 (2014 Consumer Reports:
4 “Sonos not only helped to invent the wireless speaker category, the company also set the bar for
5 performance, ease of use, and flexibility.”); SONOS-SVG2-00042644-659 (2015 Men’s Journal:
6 “Sonos almost singlehandedly established the stand-alone wireless home speaker system
7 category”).

8 Commercial success did not come easy for Sonos as its vision was in many ways ahead
9 of its time. But year by year, consumers – and the entire industry – came to appreciate that
10 wireless multi-room audio devices and systems could not only work, but could become an
11 essential part of the listening experience. Success required staying true to Sonos’s disruptive
12 vision, continuing to innovate while adjacent industries caught up and customers became more
13 and more enamored with the idea of Sonos as they had the chance to encounter and use its
14 products. Once Sonos had taken all the risks and placed enormous bets on research and
15 development, the “first followers” began to copy Sonos’s innovations.

16 To this day, Sonos remains focused on innovations that further enhance the listening
17 experience. Sonos invests heavily in research and development and, as a result, frequently
18 invents new systems with new technologies, enhanced functionality, improved sound quality,
19 and an enriched user experience.

20 As a result, Sonos has become one of the world’s leading providers of innovative audio
21 products. In recognition of its wide-ranging innovations, the U.S. Patent & Trademark Office
22 has granted or allowed Sonos more than one thousand U.S. patents, including the patents-in-suit,
23 with hundreds more patents in other countries. The innovations captured by these patents cover
24 many important aspects of wireless multi-room audio devices/systems, including, for example,
25 how to manage and control groups of playback devices, how to facilitate seamless control and
26 transfer of audio playback among devices, and how to output amazing sound quality.

27 The industry has recognized the importance of Sonos’s patents. For example, Sonos
28 earned a spot on the IPO list of “Top 300 Organizations Granted U.S. Patents” and the IEEE

1 recognized Sonos as having one of “[t]he technology world’s most valuable patent portfolios.”
 2 *See* SONOS-SVG2-00042092-102; SONOS-SVG2-00042103-104.

3 Sonos launched its first commercial products in 2005, and has since released a wide
 4 variety of critically acclaimed, patented, wireless multi-room audio products, including, for
 5 example, the Play:1, Play:3, Play:5 (Gen 1 and Gen 2), ONE (Gen 1 and Gen 2), ONE SL,
 6 MOVE, ROAM, PLAYBAR, PLAYBASE, BEAM, SUB, CONNECT, PORT,
 7 CONNECT:AMP, AMP, FIVE, and ARC. *See, e.g.*, SONOS-SVG2-00042477-629. Sonos’s
 8 products can be set up and controlled by the Sonos app. *Id.*

9 Sonos’s efforts have made it incredibly popular with its customers. Sonos estimates that
 10 in fiscal year 2020, Sonos’s customers listened to 10.2 billion hours of audio content using its
 11 products. And, as of October 3, 2020, Sonos had a total of nearly 31.6 million products
 12 registered in approximately 10.9 million households globally.

13 Sonos’s record of innovation has made it the undisputed leader in what has come to be
 14 called the “multiroom audio” field. *See, e.g.*, SONOS-SVG2-00042113-124 (2018 Digital
 15 Trends: “Sonos is the king of multiroom audio ... a category it single-handedly created 16 years
 16 ago.”); SONOS-SVG2-00042125-142 (2019 What Hi-Fi: “[N]o multi-room offering is as
 17 complete or as pleasurable to live with as Sonos.”).

18 Google had long been interested in bringing a streaming music device to people’s homes.
 19 In June 2012, for instance, Google unveiled a product called the “Nexus Q” – a networked music
 20 streaming device. Google purportedly distributed samples of this device at the 2012 Google I/O
 21 developer conference. But in January 2013, the Nexus Q was quietly shelved and support for the
 22 device was phased out beginning in May 2013. While the Nexus Q was available for pre-order,
 23 the Nexus Q was never commercially sold. *See, e.g.*, <https://www.theverge.com/2012/6/29/3125551/google-nexus-q-review>.
 24

25 Meanwhile, Google was having mixed success with its free music streaming app,
 26 originally called “Google Music” (since rebranded as “Google Play Music”). *See*
 27 <https://www.cnet.com/news/google-music-not-living-up-to-expectations-exclusive/>. In May
 28 2013, Google announced “Google Play Music All Access” – a paid version of the Google Play

1 Music streaming service. At the announcement, Google acknowledged that one of the “most
2 popular questions” Google received was about whether Google Play Music and Google Play
3 Music All Access would support Sonos products. SONOS-SVG2-00040220.

4 Indeed, by this time, Sonos had been selling its wireless multiroom home audio players
5 for over seven years and had captured an overwhelming majority of the market share for wireless
6 multiroom home audio products. Google had taken notice. In fact, Google engineers reached
7 out to Sonos as early as December 2011 to attempt to learn more about the Sonos system. For
8 example, Google engineer Debajit Ghosh reached out to then Sonos employee Joni Hoadley in
9 December 2011 inquiring as to many facets of the Sonos system, including how to push track
10 URLs to devices, how device authentication takes place, how a server can send track metadata to
11 devices, how client caching works, and further requesting to review Sonos APIs and any Sonos
12 whitepapers that further explain how the system works. SONOS-SVG2-00040234-235.

13 Moreover, several Google engineers and executives were owners of Sonos products and had
14 repeatedly marveled at Sonos’s technology implemented in its products. *See, e.g.*, SONOS-
15 SVG2-00040220 (Google engineer, Chris Yerga, exclaiming that “[w]hen I moved [to Japan] I
16 brought clothes, toothpaste and a Play:5. I see those as the bare necessities :)”).

17 Google sought to take advantage of Sonos’s market penetration and success. Google
18 engineer, Chris Yerga, noted that around the time of Google Play Music All Access’s launch in
19 2013, Google was “talking [] internally” about “Sonos integration,” and acknowledged that
20 Sonos shared its “vision” with him “a couple years ago.” SONOS-SVG2-00040220. Not long
21 after this, Google engineer Hugo Barra reached out to then Sonos CEO, Jon MacFarlane, to
22 schedule a meeting to “do a product and technical deep dive on Sonos/Google integration.”
23 SONOS-SVG2-00040228-229.

24 In July 2013, Google executive Hugo Barra and Google engineers Dave Burke and
25 Debajit Ghosh met with Sonos engineers and executives, Nick Millington, Tom Cullen, Andrew
26 Schulert, and Ron Kuper to discuss a Sonos-Google integration through which Google Play
27 Music would be added as a music service to the Sonos system and the Google Play Music app
28 would be able to play music directly to Sonos players. *See, e.g.*, SONOS-SVG2-00040230-233.

1 For playing music directly to Sonos players using the Google Play Music app, the intent was to
2 utilize an implementation referred to as [REDACTED]. To facilitate this
3 integration, beginning in July 2013, Sonos provided Google with unique insight into how the
4 Sonos wireless multi-room products functioned. Among other things, Sonos provided Google
5 with samples of Sonos products to test, access to Sonos API code, API documentation, and
6 detailed descriptions on how to implement zone group functionality, discovery of zone groups,
7 and group volume functionality, among others. *See, e.g.* SONOS-SVG2-00040199 (attachment
8 at SONOS-SVG2-00042466-469); SONOS-SVG2-00040198 (attachment at SONOS-SVG2-
9 00042462-465); SONOS-SVG2-00040195-197 (attachments at SONOS-SVG2-00042454-457,
10 SONOS-SVG2-00042458-461); SONOS-SVG2-00040194 (attachments at SONOS-SVG2-
11 00042451-452, SONOS-SVG2-00042453); SONOS-SVG2-00040230-233; SONOS-SVG2-
12 00040227; SONOS-SVG2-00040238-241 (attachment at SONOS-SVG2-00042476); SONOS-
13 SVG2-00040236-237 (attachment at SONOS-SVG2-00042471-475).

14 Amidst this integration partnership, Google launched its first-generation Chromecast
15 product in July 2013 – a wireless video streaming device utilizing Google’s “cast” technology.
16 Armed with the knowledge of Sonos’s success with wireless multi-room audio products, Google
17 set its sights on extending the Chromecast product to wireless multi-room audio and eventually
18 to stand-alone all-in-one playback devices. To achieve this, Google set out to develop “cast for
19 audio” (CFA). SONOS-SVG2-00040226 (Google engineer, Micah Collins, reaching out to
20 inform Sonos that [REDACTED])

21 But Google knew that it could not deliver a successful wireless multiroom audio product
22 without utilizing Sonos’s technology for, among other things, grouping networked audio devices
23 and synchronizing playback of streaming media content. SONOS-SVG2-00040219
24 (memorializing conversation with Sundar Pichai, in which (i) Sundar explained that “he is
25 confident Cast is good for video and less confident they have thought though Audio and was
26 hoping that’s where [Sonos] could help.”). Indeed, Google’s engineers lacked experience with
27 wireless multiroom audio, and it was simply too tempting at this point to copy this technology
28 from Sonos, rather than start from scratch. *Id.* And so, Google continued its partnership with

1 Sonos under the guise that Sonos products would be the beneficiary of a CFA platform that
 2 would allow users to play audio from Android applications on Sonos devices, while, in the
 3 meantime, Google used what it was learning from Sonos to implement its own version of
 4 Sonos's products. *See, e.g.*, SONOS-SVG2-00040226 ([REDACTED])
 5 [REDACTED]
 6 [REDACTED]; SONOS-SVG2-00040224
 7 [REDACTED]
 8 [REDACTED]
 9 [REDACTED]; SONOS-SVG2-00040219 (memorializing
 10 conversation with Sundar Pichai, in which (i) Sundar explained that the Cast team needed help in
 11 audio, and Sonos should find a good reception there, (ii) Sundar wants Sonos "to help the Cast
 12 team nail the right audio solution and [] is interested in [Sonos's] commitment[,] (iii) "Sundar is
 13 a Sonos user. Relatively recently but very happy and was just in the process of adding a SUB.
 14 His pet missing feature is Grouping Players . . . in Google play," (iv) "[Sundar] is a music fan
 15 and his family is very happy with the Sonos [system]," and (v) "[Sundar] is confident Cast is
 16 good for video and less confident they have thought though Audio and was hoping that's where
 17 [Sonos] could help.").

18 Leading up to a June 2014 meeting between Sonos and Google, Sonos shipped the
 19 Google executive in charge of Google Home, Mario Queiroz, several Sonos Play:1 devices to
 20 test out. *See* SONOS-SVG2-00040218. And at the June 2014 meeting between Sonos (Nick
 21 Millington, Marc Whitten, Tad Coburn, Andy Schulert, and Ben Smith) and Google (Mario
 22 Queiroz, Majd Bakar, Rishi Chandra, Michael Sundermeyer, Tomer Shekel, Suveer Kothari,
 23 Adrienns McCallister, Matt Stuart), Sonos openly shared its vision for the "modern audio
 24 platform," which included among other concepts, Sonos's grouping architecture. SONOS-
 25 SVG2-00040200-217.

26 According to Google, at least some functionality that was developed during this
 27 partnership is "analogous" to the functionality accused of infringement in this case. Dkt. 32 at
 28 24; *see also* Google's Responses to Sonos's Second Set of Venue Interrogatories. Yet at no

1 point during this integration work did Google inform Sonos that it eventually intended to
2 introduce a competitive wireless multi-room product – let alone a line of all-in-one players and
3 apps that implement Sonos’s patented functionality intended to directly compete with Sonos.
4 Given the Sonos-Google partnership, as well as Google’s unique familiarity with Sonos,
5 including its recognition that Sonos was a leading innovator in the audio space, Google knew
6 that Sonos had filed patents directed to the features now accused of infringement. Its decision to
7 move forward with implementing the features now accused of infringement in the face of such
8 knowledge was reckless at best and deliberate piracy at worst.

9 Ultimately in 2015, now a full decade after Sonos’s first product launch and a full two
10 years after the Sonos-Google integration began, Google released its “Chromecast Audio” product
11 – an audio adapter/dongle that can turn a speaker with an auxiliary port into a wireless,
12 networked speaker. While the Chromecast Audio product did not initially launch with Sonos’s
13 patented multi-room audio and zone scene functionality, covered by the ‘966 and ‘885 Patents
14 (as well as the ‘206 Patent, which is the grandparent patent to the ‘966 and ‘885 Patents), Google
15 quickly released a multi-room audio software update just a couple of months after initial launch.
16 *See* SONOS-SVG2-00040242-245 (2015 The Guardian: “Google is also working on multi-room
17 audio streaming using the Chromecast Audio, but it will not support the popular feature out of
18 the box.”).

19 In announcing its multi-room software update, Google explained the importance of this
20 added functionality, with striking similarity to the Sonos presentation shared with Google in June
21 2014:

22 A couple of months ago we launched Chromecast Audio. . . . Today we’re starting to add
23 two new features to the latest software update to elevate your listening experience. . . . Now you
24 can easily fill every room in your home-bedroom, kitchen, living room, or wherever you have a
25 Chromecast Audio connected-with synchronous music. Multi-room lets you group Chromecast
26 Audio devices together so you can listen to the same song on multiple speakers.

27 *Compare* SONOS-SVG2-00040246-249 (December 2015 *Google Chrome Blog* by
28 Tomer Shekel) *with* SONOS-SVG2-00040200-217.

1 As observed in a 2015 *Variety* article entitled “Google’s Chromecast Audio Adapter Gets
2 Multi-Room Support Similar to Sonos,” Google’s updated Chromecast Audio was considered a
3 “major” advancement for Google and was recognized as competing directly with Sonos because
4 of its similar multi-room capability:

5 Google’s recently-launched Chromecast Audio adapter is getting a major feature update
6 this week: Consumers will now be able to group multiple Chromecast audio adapters to stream
7 their favorite music simultaneously in more than one room, similar to the multi-room support
8 available for internet-connected loudspeakers like the ones made by Sonos.

9 SONOS-SVG2-00040250-252.

10 To control the multi-room Chromecast Audio, Google also provided a Chromecast app
11 with multi-room audio functionality and the ability to use Sonos’s patented zone scene
12 technology. As observed in a 2015 article by *Pocket-Lint*, Google’s multi-room app “can pretty
13 much do the same thing” as Sonos’s app:

14 [Chromecast Audio]’s been updated to make it more comparable to Sonos, a smart
15 speaker system that wirelessly streams all your Hi-Fi music to any room, or every room. You
16 control your Sonos experience with one app. Well, thanks to a new software rollout, Chromecast
17 Audio can pretty much do the same thing.

18 SONOS-SVG2-00040253-257.

19 Moreover, as outlined above, Google released the Chromecast Audio device merely two
20 years after partnering with Sonos to integrate Google Play Music into the Sonos platform.
21 Google exploited the knowledge of Sonos’s system that it gained from this integration work to
22 develop its multi-room Chromecast Audio product and infringe Sonos’s patents.

23 Sonos’s CEO, John MacFarlane reached out to Google CEO Sundar Pichai in July 2016
24 raising the issue of Google’s infringement and warning that Google’s upcoming all-in-one
25 speaker, the Google Home, would infringe as well. SONOS-SVG2-00040222 (“Our experts
26 indicate that the Chromecast and Chromecast for Audio hardware infringe on 15 of Sonos’
27 issued utility patents today. All indications are that the Google Home speaker will infringe an
28 additional 5-10 issued utility patents.”). This warning culminated in an October 2016 meeting

1 between Sonos and Google during which Sonos put Google on notice of infringement of 28
2 Sonos patents, including the ‘206 Patent and a soon-to-be-allowed patent application that shares
3 a specification with (and is in the family of) the ‘615 Patent and ‘033 Patent. SONOS-SVG2-
4 00041769-806; SONOS-SVG2-00041610-642.

5 Rather than heed this warning and stop infringing, Google *accelerated* its infringement.
6 Google blatantly and aggressively expanded its line of multi-room wireless audio products
7 through new product releases and software updates over the next four years. With each iteration,
8 Google’s copying of Sonos’s products and patented technology became more and more blatant.
9 For example, after having discussed its infringement with Sonos several times, Google escalated
10 its copying of Sonos and Sonos’s patented features by releasing the Google Home multi-room
11 audio player in November 2016 (which was controlled by Google’s rebranded multi-room
12 controller app – the Google Home app). Unlike the Chromecast Audio, the Google Home added
13 an internal speaker driver making it an “all-in-one” audio player akin to Sonos’s Play:1, Play:3,
14 and Play:5 products.

15 As with the Chromecast Audio, the Google Home was recognized as a clear and direct
16 attack on Sonos. When the Google Home was announced, for example, *The Register* observed
17 that “[n]o market is safe from [the] search engine monster” and that Google was in particular
18 “offering new products to compete with Sonos in the music streaming market.” SONOS-SVG2-
19 00040258-265. *The Register* also further noted the conspicuous similarity that multiple “Google
20 Homes will work with one another, allowing music to be spread into different rooms on
21 command - like the very popular Sonos music system.” *Id.*

22 Like *The Register*, *The Verge* also recognized the similarities between the new infringing
23 Google Home and Sonos’s prior products: “You can also group multiple Home units together
24 and play music through all of them simultaneously, similar to how Sonos works.” SONOS-
25 SVG2-00040266-275.

26 Again, the media comparisons between Google’s Home and Sonos’s products reflected
27 the darker truth that Google had misappropriated Sonos’s innovations as well as the information
28 it learned over the course of its partnership with Sonos.

1 The Google Home product proved to be merely another forerunner to further copying by
 2 Google. In 2017 (now 8 years after Sonos released its first all-in-one speaker, the Play:5 and 12
 3 years after Sonos released its first audio player), Google released two additional “all-in-one”
 4 wireless multi-room products – the Google Home Max and the Google Home Mini. Google’s
 5 Home Max in particular was seen as a “Sonos Clone” and a “not-so-subtle copy of the [Sonos]
 6 Play:5 speaker” SONOS-SVG2-00040276-280. As explained by *Gizmodo*, “[i]t’s also hard
 7 not to see the [Google Home Max] device as something of a jab at Sonos.” *Id.*; see also, e.g.,
 8 SONOS-SVG2-00040281-289 (2017 *Android Central*: “You can’t help but look at Google
 9 Home Max . . . and come to the conclusion that Google is sticking its nose where Sonos has been
 10 for years.”).

11 Consequently, in January 2018, again in July 2018, and yet again in February 2019,
 12 Sonos put Google on notice that it was infringing over 100 Sonos patents, including the ‘615
 13 Patent. Nothing Sonos did, however, deterred Google from expanding its infringement.
 14 Google’s infringing product line now includes at least the Chromecast, Chromecast Ultra,
 15 Chromecast Audio, Chromecast with Google TV, Home Mini, Nest Mini, Home, Home Max,
 16 Home Hub, Nest Hub, Nest Hub Max, Nest Audio, and Nest Wifi Point, all of which can be
 17 controlled by, for example, the YouTube Music app, the Google Play Music app, the YouTube
 18 app, the YouTube TV app, the Google Podcasts app, Spotify, and the Google Home app.

19 In addition to providing the Google Apps for controlling the Google Audio Players,
 20 Google now offers various infringing hardware controllers that are pre-installed with these
 21 infringing apps, (and capable of downloading and executing the apps that are not pre-installed).
 22 These infringing hardware controllers include, for example, Google’s “Pixel” phones, tablets,
 23 and laptops.

24 In order to hold Google accountable for its willful infringement of Sonos’s patents,
 25 Sonos filed a complaint in January 2020 asking the United States International Trade
 26 Commission (“ITC”) to institute an investigation into Google’s unlawful importation into and
 27 sale in the United States of infringing products. The ITC instituted an investigation, *In re Certain*
 28 *Audio Players and Controllers, Components Thereof, and Products Containing Same*, Inv. No.

337-TA-1191 to determine whether Google’s audio players and controllers infringe five Sonos patents directed to fundamental features such as playing music on multiple speakers in synchrony, playing music in stereo over two or more players, a controller that can easily setup a player on a wireless network, and playback-control features such as controlling both the volume of individual speakers and a group of speakers. In August 2020, the Chief ALJ issued an initial determination that Google infringed all five Sonos patents brought in that investigation and that none of these Sonos patents are invalid.

While the ITC Investigation has been pending, Google continued to increase its infringement by releasing new infringing products, including the Nest Audio and Chromecast with Google TV products. Press reports indicate that Google is introducing new products and changes that mean Google is “one step closer to replacing your Sonos system.” <https://www.androidcentral.com/google-nest-speakers-just-got-better-multi-room-audio-controls?amp>; SONOS-SVG2-00042280-284; *see also* SONOS-SVG2-00042397-402 (“The new functionality appears to be the most direct challenge to the likes of Sonos, which has enjoyed enormous success by creating a series of connected speakers and soundbars that can play music simultaneously – or individually.”). The press has similarly noted that Google’s new speaker “could be a new rival for the likes of the Sonos One, the best smart speaker you can buy in 2020.” SONOS-SVG2-00042285-291; *see also* SONOS-SVG2-00042397-402 (“Just like Sonos, you can also change the volume on each speaker individually from the main interface.”). And press reports indicate that Google has expanded its use of Sonos’s stereo pair technology into the new smart-speakers even though Google is *currently* being sued for infringing a Sonos patent on this technology. SONOS-SVG2-00042292-294; SONOS-SVG2-00042397-402. Google’s aggressive and deliberate expansion of its use of Sonos’s patented technology has led observers to conclude that “[n]o market is safe from [the] search engine monster” and that Google was specifically “offering new products to compete with Sonos in the music streaming market.” *See* SONOS-SVG2-00042295-303.

Google itself has also highlighted the importance of its use of Sonos’s technology. For example, Google’s Chris Chan publicly stated that “[c]ontrolling the audio throughout my home,

no matter who's listening, has been incredibly helpful" and that "[t]oday, we're expanding that control. You can already manually group Nest devices in order to play the same music on various speakers at the same time, and now we're launching multi-room control so you can dynamically group multiple cast-enabled Nest devices (speakers, Smart Displays, Chromecasts) in real-time to fill multiple rooms with music." SONOS-SVG2-00042292-294; *see also* SONOS-SVG2-00042397-402. Again, Google has expanded its use of this technology *while* it is being sued for infringing Sonos's patents on this precise technology. Not even a finding by the Chief ALJ in the ITC investigation that Google infringes five valid Sonos patents has deterred Google from continuing to infringe Sonos's patents.

In the face of Google's unrelenting infringement, Sonos had no choice but to bring this suit. Sonos provided a pre-filing copy of this Complaint to Google, thereby providing clear pre-suit notice of infringement of the patents-in-suit. Particularly, Sonos provided actual notice of the '615 Patent in February 2019 (SONOS-SVG2-00041568-570, SONOS-SVG2-00041120-125), actual notice of the '033 Patent and '966 Patent on September 28, 2020, and actual notice of the '885 Patent on January 8, 2021. However, as demonstrated above, Google was on notice that Sonos had filed patents directed to the technology at issue here much earlier than this. Google, however, has never given any indication that it is willing to stop infringing, and did not do so in response to receiving a draft of the complaint in this case.

Google is unwilling to stop infringing because its infringement of Sonos's patented inventions has paved the way for Google to generate billions of dollars in revenue. A December 2018 market report by Royal Bank of Canada ("RBC"), for example, concluded that Google sold over 40 million Google Home devices in the U.S. and that Google generated \$3.4 billion in Google Home revenue in 2018 alone. SONOS-SVG2-00042304-332.

RBC also found that, as of August 2017, Google had sold more than 55 million Chromecast devices and that Google generated almost \$1 billion in Chromecast revenue in 2018. *Id.* Further, RBC estimated that, in 2018, Google generated \$3.4 billion in Pixel device revenue. *Id.* By 2021, RBC estimates that Google will be annually selling over 100 million Google Home devices in the U.S. and generating over \$8 billion in Google Home revenue. *Id.* In addition, by

2021, RBC estimates that Google will annually generate \$2.4 billion in Chromecast revenue and nearly \$7 billion in Pixel device revenue. *Id.*

The revenue obtained from the sale of Google’s hardware devices vastly understates the value to Google of infringing Sonos’s patents. Google is intentionally selling the infringing products at a discount and/or as a “loss leader” with the expectation that this will allow Google to generate even more revenue in the future – *e.g.*, by powering Google’s continued dominance of the market(s) for search and advertising. In particular, Google’s infringement of Sonos’s patented inventions has helped and/or will help Google generate significant revenue from the use of Google’s hardware devices including advertising, data collection, and search via the Google Wireless Audio Systems. As the *New York Post* explained, “Amazon and Google both discounted their home speakers so deeply over the holidays that they likely lost a few dollars per unit ... hoping to lock in customers and profit from later sales of goods and data about buying habits.” SONOS-SVG2-00042333-336. Similarly, *News Without Borders* explained that companies like Google are using their “smart speaker” devices as “‘loss leader[s]’ to support advertising or e-commerce.” SONOS-SVG2-00042337-344.

Google’s copying and willful infringement of Sonos’s patented inventions has also helped and/or will help Google generate significant revenue from driving its users to make purchases such as streaming music subscriptions and retail purchases via the Google Wireless Audio Systems. For example, an NPR “smart speaker” survey found that 28% of survey respondents agreed that “[g]etting [a] Smart Speaker led [them] to pay for a music service subscription,” and Google offers two such subscriptions – Google Play Music and YouTube Music. SONOS-SVG2-00042345-383. Likewise, the NPR survey also found that 26% of respondents use their smart speakers “regularly” to “add [items] to shopping list.” *Id.*; *see also*, *e.g.*, SONOS-SVG2-00042337-344 (stating that companies like Google are using their “smart speaker” devices as “‘loss leader[s]’ to support... e-commerce.”).

Google is willfully infringing Sonos’s patents as part of a calculated business strategy referred to as “efficient infringement.” Google has determined that it is financially advantageous to avoid taking a license to Sonos’s patent portfolio (despite knowing that it infringes a vast

1 number of Sonos patents) while Google continues to sell infringing products in order to build its
2 user base, collect valuable user data, and secure multiple revenue streams. Google is one of the
3 largest companies in the world, and as such has massive cash reserves with which it can
4 comfortably withstand a nearly indefinite period of litigation against Sonos. A recent SEC filing
5 indicates Google's cash (and equivalents) on hand to be approximately \$135.8 billion.

6 <https://www.sec.gov/Archives/edgar/data/1652044/000165204421000047/goog-20210630.htm>

7 Google's strategy is therefore to continue to reap the many benefits of its infringing activity
8 while viewing any costs associated with defending against Sonos's infringement claims as
9 simply the cost of doing business. Indeed, in furtherance of this strategy, Google retaliated
10 against Sonos's ITC complaint with a slew of lawsuits against Sonos around the world, including
11 in San Francisco, Canada, France, Germany, and The Netherlands.

12 In regard to Google's strategy of "efficient infringement," Google's actions in the
13 Canadian lawsuit are illustrative. In Canada, Google is asserting a counterpart to a U.S. patent
14 that it had asserted in San Francisco. After months of reviewing Sonos's source code for the
15 accused products, Google voluntarily dismissed its claim under the U.S. patent with prejudice –
16 Google's review confirmed that Sonos did not infringe the asserted patent. In the United States,
17 the consequences of pursuing a demonstrably baseless lawsuit are significant. Nonetheless,
18 Google is continuing to pursue the lawsuit in Canada involving the Canadian counterpart. And
19 in this way, Google is forcing Sonos to defend the Canadian action and proving (again) that its
20 products do not practice the asserted technology, while Google and its counsel are already aware
21 of the definitive exculpatory evidence in Sonos's source code. In this respect, Google has not
22 identified any new evidence or legal argument that supports its continued pursuit of the Canadian
23 action, and its improper motivation is thus clear. Google's conduct indicates it is hoping to
24 sidestep punishment for engaging in vexatious litigation in the United States, by instead
25 engaging in vexatious litigation in foreign jurisdictions.

26 While avoiding reckoning for its infringement, Google can continue to use its infringing
27 products to vacuum up invaluable consumer data from users and, thus, further entrench the
28 Google platform among its users and fuel its dominant advertising and search platforms.

Google's infringement – and its strategy to sell its infringing products *at a loss* to develop alternative revenue streams – has caused significant damage to Sonos. For example, the Google Home Mini predatorily implemented Sonos's valuable patented technology into an all-in-one wireless multi-room product that Google sells at a highly subsidized price point or even gives away for free. SONOS-SVG2-00042384-390 ("At \$49, Google Home Mini works on its own or you can have a few around the house, giving you the power of Google anywhere in your home."); SONOS-SVG2-00042337-344 ("Google partnered with Spotify to offer Home Minis as a free promotion for Spotify Premium customers. Spotify's premium userbase is nearly 90 million, so if even a fraction of users take the free offer, a massive influx of Google smart speakers will enter the market.").

Additionally, pursuant to Fed. R. Civ. P. Rule 33(d), Sonos will produce documents from which further information sought in this Interrogatory may be derived.

Sonos reserves the right to revise, correct, add to, supplement, or clarify its response to this Interrogatory as additional information is discovered and/or becomes available.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 14 (1/21/2022)

Sonos incorporates by reference its response and objections above. Sonos further responds as follows:

Sonos is not presently aware of every individual at Google who had notice of Sonos's patents. Sonos states that at least the following individuals or representatives of Google had notice of Sonos's patents.

On September 2, 2016, Sonos sent John LaBarre and Allen Lo at Google a document identifying 24 issued Sonos patents and 4 allowed Sonos patent applications, including ones that share a common specification with the '615 Patent, the '966 Patent, '033 Patent, and '885 Patent.

On October 13, 2016, Sonos sent John LaBarre, Allen Lo, and Louis Sorell at Google a document identifying 22 issued Sonos patents and 6 allowed Sonos patent applications (including ones that share a common specification with the '615 Patent, the '966 Patent, '033 Patent, and '885 Patent) and identifying relevant Google products for each.

1 On October 26, 2016, Sonos sent John LaBarre at Google a PowerPoint presentation
2 identifying 29 issued Sonos patents and 3 allowed Sonos patent applications (including ones that
3 share a common specification with the ‘615 Patent, the ‘966 Patent, ‘033 Patent, and ‘885
4 Patent).

5 On January 31, 2018, Sonos sent Matthew Gubiotti at Google a PowerPoint presentation
6 identifying 16 issued Sonos patents and 1 allowed Sonos patent application (including ones that
7 share a common specification with the ‘966 Patent and ‘885 Patent), and identifying relevant
8 Google products for each, including products accused in this case.

9 On July 12, 2018, Sonos sent John LaBarre and Matthew Gubiotti at Google a document
10 identifying 58 issued Sonos patents (including ones that share a common specification with the
11 ‘615 Patent, the ‘966 Patent, ‘033 Patent, and ‘885 Patent) and identifying relevant Google
12 products for each, including products accused in this case.

13 On February 22, 2019, Sonos sent Matthew Gubiotti , Bradley Riel, and Tim Kowalski at
14 Google a letter enclosing a link to an electronic repository containing 100 claim charts detailing
15 Google’s infringement of 100 issued Sonos patents (including the ‘615 Patent and others that
16 share a common specification with the ‘615 Patent, the ‘966 Patent, ‘033 Patent, and ‘885
17 Patent).

18 On June 13, 2019, Sonos sent Bradley Riel and Tim Kowalski at Google a PowerPoint
19 presentation reiterating the 100 claim charts detailing Google’s infringement of 100 issued Sonos
20 patents sent on February 22, 2019 and identifying 6 issued Sonos patents (including one that
21 shares a common specification with the ‘966 Patent and ‘885 Patent) and identifying relevant
22 Google products for each.

23 On January 6, 2020, Sonos sent Bradley Riel and Tim Kowalski at Google a pre-filing
24 copy of an International Trade Commission Complaint, a U.S. District Court complaint, and
25 claim charts detailing Google’s infringement of 5 issued Sonos patents via products that are also
26 accused in this case.

27 On September 28, 2021 Sonos sent Bradley Riel and Tim Kowalski at Google a pre-filing
28 copy of Sonos’s complaint detailing Google’s infringement of, *inter alia*, the ‘615, ‘033, and

1 '966 Patents.

2 On January 8, 2021, Sonos's counsel sent Google's counsel a copy of an amended
3 complaint and supplemental infringement contentions detailing Google's infringement of the
4 '885 Patent.

5 Notwithstanding other instances that Google was put on notice of Sonos's patents, which
6 are in the possession of Google and for which Sonos awaits disclosure, the above-identified
7 instances establish that Google was, over a five-year period, put on repeated notice of Sonos's
8 patents and the breadth of Sonos's patent portfolio concerning specifically the products accused
9 in this case. At a minimum, this knowledge and repeated and persistent disclosure establishes
10 that Google was, for some time periods, at least willfully blind to the fact that the asserted
11 patents existed and, for other time periods, had actual knowledge of the existence of the asserted
12 patents. Further, this knowledge and repeated and persistent disclosure establishes that Google,
13 for some time periods, had at least failed to investigate whether it infringed the asserted patents
14 despite the existence of a high risk of infringement and, for other time periods, had actual
15 knowledge of a credible and specific allegation of infringement of the asserted patents.

16 Sonos also incorporates by reference Google's response to Sonos's interrogatory no. 1.

17 Additionally, pursuant to Fed. R. Civ. P. Rule 33(d), Sonos will produce documents from
18 which further information sought in this Interrogatory may be derived. *See, e.g.*, SONOS-SVG2-
19 00043287; SONOS-SVG2-00043288-383; SONOS-SVG2-00043435-496; SONOS-SVG2-
20 00043164-166; SONOS-SVG2-00043167-199; SONOS-SVG2-00043200; SONOS-SVG2-
21 00043201-202; SONOS-SVG2-00043203-204; SONOS-SVG2-00043205-286; SONOS-SVG2-
22 00043384-387; SONOS-SVG2-00043388-391; SONOS-SVG2-00043392-411; SONOS-SVG2-
23 00043412-419; SONOS-SVG2-00043420-434; SONOS-SVG2-00043497-541; SONOS-SVG2-
24 00043542-577; SONOS-SVG2-00043578-604; SONOS-SVG2-00043605-638; SONOS-SVG2-
25 00043639-680; SONOS-SVG2-00043681-684; SONOS-SVG2-00043685-687; SONOS-SVG2-
26 00043688; SONOS-SVG2-00043689-742; SONOS-SVG2-00043743; SONOS-SVG2-
27 00043744-745; SONOS-SVG2-00043746-766; SONOS-SVG2-00043767; SONOS-SVG2-
28 00043768; SONOS-SVG2-00043769-806; SONOS-SVG2-00043807; SONOS-SVG2-